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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/951,201	10/14/1997	WILLIAM M. WOODARD	33470US	1323

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 09/05/2003

34

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/951,201

Applicant(s)

WOODARD ET AL.

Examiner

Alexa A. Doroshenk *ADD*

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 22-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. For purposes of enhancing the clarity of the file record and the interpretation of limitations, the following claims analysis is provided with respect to claim 28. The recitation that the system “consisting essentially of” the recited limitations will be construed as equivalent to “comprising.” It is also held that the structural elements of Avidan et al. which are not recited in the instant claim (such as effluent line 10 of Avidan et al.) do not materially affect the reaction inside the system and therefor Avidan et al. continues to read on the instant claim.

From MPEP 2111.03:

The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). “A consisting essentially of claim occupies a middle ground between closed claims that are written in a consisting of format and fully open claims that are drafted in a comprising format.” PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998). See also Atlas Powder v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); In re Janakirama-Rao, 317 F.2d 951, 137 USPQ 893 (CCPA 1963); Water Technologies Corp. vs. Calco, Ltd., 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988).

For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting

Art Unit: 1764

essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase consisting essentially of" for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). See also *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893, 895-96 (CCPA 1963). If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also *Ex parte Hoffman*, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989).

3. Claims 1, 2, 4, 22, 23, 25, 28, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Avidan et al. (4,778,661).

With respect to claims 1, 22 and 28, Avidan et al. discloses a system comprising:

a reactor (2) of solution, slurry or gas phase (col. 6, lines 23-30);

a first inlet line (23) for olefin reactant (inherently connected to a source of that olefin);

a second inlet line (14) for catalyst operably connected to a source of catalyst (13);

wherein said first and second inlet lines are separate from one another (see figure 1) and located in the reactor to provide contact within the reactor of the materials they carry (col. 6, line 59- col. 7, line 3);

an effluent line (46) from the reactor for transferring olefin, catalyst and reaction products (col. 7, lines 23-26); and

a separator (50) connected to the effluent line (46) to separate desire products (col. 7, lines 29-32).

With respect to claims 2, 23 and 29, Avidan et al. discloses wherein a filter can be operably connected into the effluent line (col. 8, lines 62-65).

With respect to claims 4, 25 and 31, it would be inherent in the apparatus to have a line with which a source of olefin is connected to the olefin inlet line (23) in order to satisfy the requirement of providing olefin.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 3, 24 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Lashier et al. (5,689,028).

The apparatus of Avidan et al. discloses all of the structural elements as described above, but does not disclose an inlet for catalyst system deactivator.

Lashier et al. discloses a process to regulate olefin production in which a catalyst comprising a chromium source, a pyrrole-containing compound and a metal alkyl (col. 1, lines 55-59) is deactivated in the reactor effluent stream (col. 5, line 65- col. 6, line 21). Lashier et al. disclose that the reaction products can be prepared from a conventional gas phase catalyst system (col. 4, line 65- col. 5, line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an inlet for catalyst deactivator into the effluent stream of Avidan et al. gas phase catalyst system in order to regulate the production of olefin during trimerization once it has left the reactor.

6. Claims 5, 26, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Harandi et al. (4,788,366).

Avidan et al. is silent as to an inlet line connected to a source of heavies.

Harandi et al. discloses a similar trimerization system with olefin feed, catalyst feed, effluent line (22), effluent separation and a feedstock or recycle inlet (21) operably connected to the effluent line wherein the source of feedstock for the process could contain heavies (col. 3, lines 41-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a heavies inlet in the apparatus of Avidan et al. as providing such an inlet further promotes the production of Avidan et al.'s desired products as taught by Harandi et al. (which also produced products such as Avidan et al.).

7. Claims 6, 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Mehra et al. (5,521,264).

Avidan et al. is silent as to an inlet line connected to a source of trimerization reaction solvent.

Mehra et al. discloses an apparatus similar to that of Avidan et al. including a separator, a reactor, filters, and a solvent inlet line (col. 13, lines 61-65 and reference number 98). Mehra et al. teaches the use of a solvent to absorb ethylene, higher alpha olefin comonomers, and heavier hydrocarbons (col. 13, lines 61-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a solvent inlet in optimal operable connection in the apparatus of Avidan et al. to incorporate the teaching of Mehra et al. and further to remove heavies during operation.

Response to Arguments

8. Applicant's arguments filed June 26, 2003 have been fully considered but they are not persuasive.

Applicant argues that "catalyst fines" carrying into the effluent line do not equate to transfer of the catalyst which is introduced into the reactor because Avidan et al. provides a line 10 to carry out catalyst from the reactor and therefore Avidan et al. does not read on the instant claims.

The examiner respectfully disagrees with applicant.

The examiner holds that catalyst fines are indeed catalyst (and that catalyst which was introduced into the reactor) and therefore the device of Avidan et al. continues to read on the instant claims, whether or not an additional line for catalyst removal is provided.

Additionally, the examiner holds that the claims are apparatus claims and have been interpreted as such, therefor notes that what a specific line may or may not carry in it is merely a recitation of intended use and does not materially affect the structural elements of the apparatus.

9. In response to applicant's argument that Lashier or Mehra and Avidan are not compatible references, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references

Art Unit: 1764

would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

10. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the general teaching of a catalyst deactivator by Lashier et al. as a desirable element of a trimerization system is motivation to apply such a teaching to another trimerization system.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

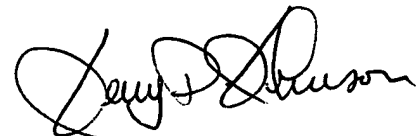
Art Unit: 1764

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 703-305-0074. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



JERRY D. JOHNSON
PRIMARY EXAMINER
GROUP 1100

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August 28, 2003